CERTIFICATE

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, GuangDong Province, China

has established and applies a quality system for

Design, Manufacturing and Sales of Mainboards, Personal Computers, Notebooks and Peripheral Cards

An audit was performed, Report No. **2.5-1585/2000**

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until **27 January 2007**

Certificate Registration No. **04100 2000 1325**

The company has been certified since **2000**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

ISO14001 CERTIFICATE

Certificate NO.: 05-2001-065

We hereby certify that

ECS Manufacturing(Shenzhen) Co.,Ltd

by reason of its

Environmental Management System

has been awarded this certificate for
compliance with the standard

ISO14001 :1996

The Environmental Management System
applies in the following area:

The manufacture of Mother Board and Peripheral Card and interrelated management activities of ECS Manufacturing(Shenzhen) Co.,Ltd. which is located in No.20,Free Trade Zone,Shatuojiao,Shenzhen, P. R.China.

Date of issue: 30th Dec 2001
Date of expiry: 29th Dec 2004
Signed by:

SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

Preface

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Version 5.0

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1
Introducing the Motherboard
Describes features of the motherboard.
Go to ⇨ page 1

Chapter 2
Installing the Motherboard
Describes installation of motherboard components.
Go to ⇨ page 7

Chapter 3
Using BIOS
Provides information on using the BIOS Setup Utility.
Go to ⇨ page 27

Chapter 4
Using the Motherboard Software
Describes the motherboard software
Go to ⇨ page 47

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing 845PE-A800 motherboard of great performance and with enhanced function. 845PE-A800 motherboard carries a ATX form factor of 305 x 204 mm. 845PE-A800 supports Socket 478 Pentium 4 processors with system bus speeds up to 800 (overclocking, requires using DDR400)/533/400MHz.

845PE-A800 incorporates chipset of Intel 845PE Northbridge and ICH4 Southbridge. 845PE(MCH) Northbridge supports a single processor with FSB of 800 (overclocking, requires using DDR400)/533/400 MHz, DDR-SDRAM at 400 (overclocking)/333/266MHz operation. It supports 64-Mb, 128-Mb, 256-Mb and 512-Mb SDRAM technology.

The ICH4 Southbridge integrates IDE controller supporting Ultra ATA/100/66/33, BMIDE and PIO modes. It implements three UHCI host controllers that provide 480Mb/s bandwidth for six external USB2.0 ports, integrates AC'97 v2.3 compliant controller that features a 6-channel of audio speaker out. The southbridge also integrates a PCI interface controller, and LAN controller supporting 10/100 Mbit/s ethernet.

There is an advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT1, and four USB ports, one optional LAN port, and audio jacks for microphone, line-in, and line-out. In addition to its excellent performance and stability, the motherboard is highly suited for Internet and rich multimedia applications, including streaming video download and are ideal for workstations and high-end home use.

FSB 800MHz is made possible by overclocking on this motherboard. When a CPU with 800MHz FSB is installed, users need to use DDR400 SDRAM module.

Features

Processor

This motherboard uses a mPGA 478-pin socket that carries the following features:

- Accommodates Intel P4 Willamette/Northwood/Prescott 478-pin CPU
- Supports a system bus (FSB) of 800*(overclocking)/533/400 MHz

(*A CPU with 800MHz FSB requires using DDR400)

Chipset

Intel's 845PE(MCH) Northbridge (NB) and 82801DB(ICH4) Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

845PE(NB)

- Supports DDR400 (overclocking)/333/266 unbuffered non-ECC DDR DIMMs
- Supports a single processor with a Data Transfer-Rate of 800 (overclocking, requires using DDR400)/533/400MHz
- AGTL+Host Bus With Integrated Termination supporting 32-bit Host Addressing
- Supports 3D Setup and Render Engine and zone rendering with high quality texture engine.

82801DB (ICH4) (SB)

- Compliant with PCI 2.2 specification at 33MHz
- 6 USB 2.0 ports for serial transfers at 480 Mbit/s
- Supports AC'97 2.3 specification
- Supports up to two Ultra DMA100/66/33 IDE channels

Memory

This motherboard can accommodate two 2.5V DIMM DDR SDRAM, supporting DDR400 (overclocking)/333/266 with maximum memory size of 2GB capability.

AC'97 Audio CODEC

The AC'97 Audio CODEC is compliant with the AC'97 2.3 specification that meets the PC2001 requirements. It also has a built-in buffer and internal PLL. Features include support for analog switch for rear-out (share), the line-in jack (share), center/bass (share), and MIC jack to output 6 channels audio.

Expansion Options

The motherboard comes with the following expansion options:

- Five 32-bit PCI slots
- One AGP slot
- Two IDE connectors which support four IDE devices
- One floppy disk drive interface
- One optional CNR (Communication Networking Riser) slot

The motherboard supports Ultra DMA bus mastering with transfer rates of 100/66 33MB/s.

Onboard LAN (optional)

The onboard LAN chip is incorporated in the chipset providing the motherboard with 10/100 Mbps fast Ethernet controller and integrated Ethernet PCI LAN capabilities.

- Supports 100/10 Mb/s N-way auto-negotiation operation
- Supports half/full duplex capability
- Supports Wake-On-LAN (WOL) and remote wake-up function

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Six USB ports (4 ports at the real I/O panel, 1 header supporting 2 ports onboard)
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

This motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- CPU parameters
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Some hardware specifications and software items are subject to change without prior notice.

Motherboard Components

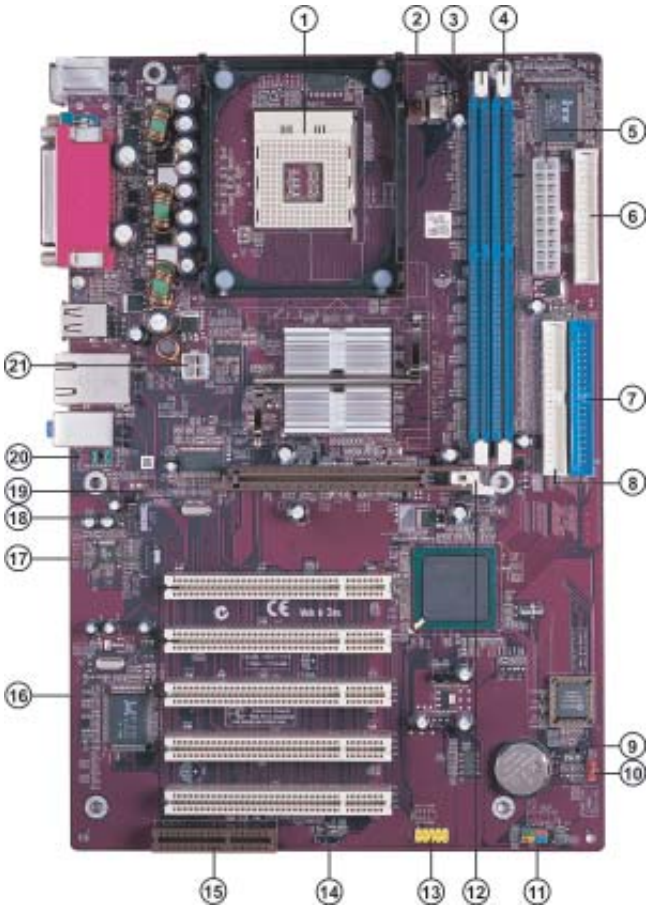


Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	mPGA478 socket for Intel P4 CPU
2 CPUFAN1	CPU cooling fan connector
3 CASFAN1	Case cooling fan connector
4 DIMM1~DIMM2	184-pin DDR SDRAM slots
5 ATX1	Standard 20-pin ATX power connector
6 FDD1	Floppy disk drive connector
7 IDE1	Primary IDE connector
8 IDE2	Secondary IDE connector
9 JP3	BIOS flash protect jumper
10 JP1	Clear CMOS jumper
11 PANEL1	Front Panel switch/LED header
12 AGP1	Accelerated Graphics Port slot
13 USB3	Front Panel USB header
14 SPEAKER1	Speaker header
15 CNR1*	Communications Networking Riser slot
16 PCI1~PCI5	32-bit add-on card slots
17 CDIN1	Analog audio input header
18 AUXIN1	Auxiliary in header
19 SPDIFO1	SPDIF out header
20 AUDIO1	Front panel Audio header
21 ATX12V	Auxliary 4-pin power connector

"*" stands for optional components.

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Memo

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, 845PE-A800 supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries a ATX form factor of 305 x 204 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

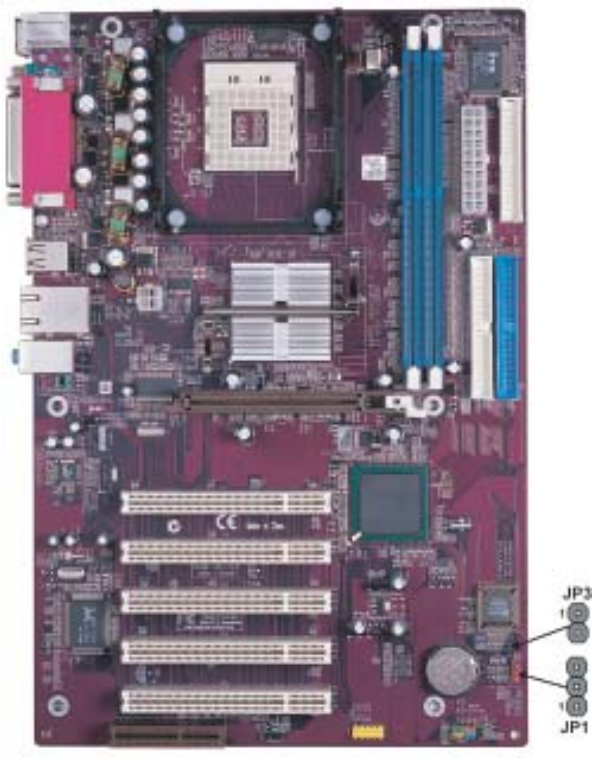
SHORT

OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



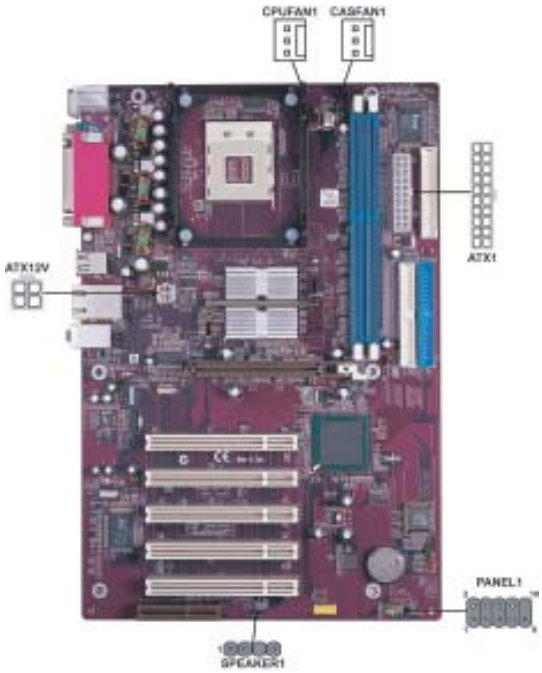
Jumper Settings

Jumper	Type	Description	Setting (default)
JP1	3-pin	CLEAR CMOS	1-2: NORMAL 2-3: CLEAR CMOS Before clearing the CMOS, make sure to turn the system off.
JP3	2-pin	BIOS Write Protect	OPEN: Write Enable SHORT: Write Disable

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1 Connect the CPU cooling fan cable to **CPUFAN1.**
2 Connect the case cooling fan connector to **CASFAN1.**
3 Connect the case speaker cable to **SPEAKER1.**
4 Connect the case switches and indicator LEDs to the **PANEL1.**
5 Connect the standard power supply connector to **ATX1.**
6 Connect the auxiliary case power supply connector to **ATX12V.**



CPUFAN1/CASFAN!: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

SPEAKER1: Internal speaker

Pin	Signal Name
1	Signal
2	Key
3	Ground
4	VCC

ATX1: ATX 20-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED headers commonly found on ATX or micro-ATX cases. Refer to the table below for information:

PANEL1

Pin	Signal Name	Function	Pin	Signal Name	Function
1	HD_LED_P	Hard disk LED+	2	FP PWR/SLP	*MSG LED+
3	HD_LED_N	Hard disk LED-	4	FP PWR/SLP	*MSG LED-
5	RST_SW_N	Reset Switch	6	PWR_SW_P	Power Switch
7	RST_SW_P	Reset Switch	8	PWR_SW_N	Power Switch
9	RSVD	Reserved	10	Key	No pin

** MSG LED (dual color or single color)*

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

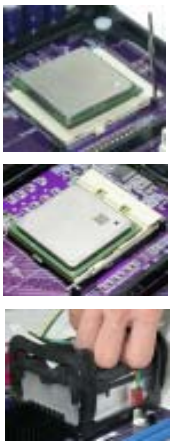
Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has a Socket 478 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components.

1 Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.
2 Locate the CPU cut edge (the corner with the pin hold noticeably missing). Align and insert the CPU correctly.
3 Press the lever down and apply thermal grease on top of the CPU.
4 Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.
5 Flip the levers over to lock the heat sink in place and connect the CPU cooling Fan power cable to the CPUFAN connector. This completes the installation.



To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

845PE-A800 accommodates two 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM (Synchronous Dynamic Random Access Memory) memory modules, and supports DDR400 (overclocking)/333/266 memory modules. Each module can be installed with 1GB of memory, the total maximum memory size is 2 GB.

DDR SDRAM memory module configuration table

845PE-A800 supports different memory frequencies depending on the CPU FSB (Front Side Bus) and the type of DDR DIMM.

CPU FSB	Memory module	Memory Frequency
800MHz	DDR400	200MHz
533MHz	DDR333/266	333/266MHz
400MHz	DDR266	266MHz

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Table A: DDR (memory module) QVL (Qualified Vendor List)

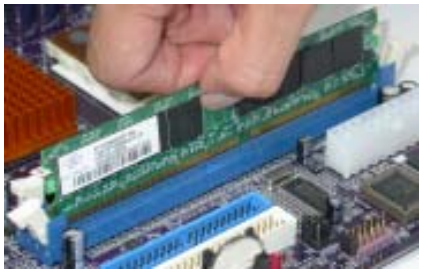
The following DDR400 memory modules have been tested and qualified for use with this motherboard.

Size	Vendor	Module Name
128MB	Infineon	HYS64D16301GU-5-B
	NANYA	NT128D64SH4B1G-5
	NANYA	NT128D64SH4B1G-5T
256MB	Infineon	HYS64D32300HU-5-C
	Infineon	HYS64D32300GU-5-B
	Micron	MT8VDDT3264AG-40BC4
	NANYA	NT256D64S88B1G-5T
	SAMSUNG	M368L3223DTM-CC4
512MB	Infineon	HYS64D64320HU-5-C
	Micron	MT16VDDT6464AG-40BC4
	SAMSUNG	M368L6423ETM-CCC

Installation Procedure

Refer to the following to install the memory modules.

1 This motherboard supports unbuffered DDR SDRAM only.
2 Push the latches on each side of the DIMM slot down.
3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6 Install any remaining DIMM modules.



Installing a Hard Disk Drive/CD-ROM

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

About IDE Devices

Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

You must orient the cable connector so that the pin1 (color) edge of the cable correspoinds to the pin 1 of the I/O port connector.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.

IDE2: Secondary IDE Connector

The second drive on this controller must be set to slave mode. The cinfiguration is the same as IDE1.

IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

About UltraDMA

This motherboard supports UltraDMA 100/66. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 100/66.

Installing a Floppy Diskette Drive

The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

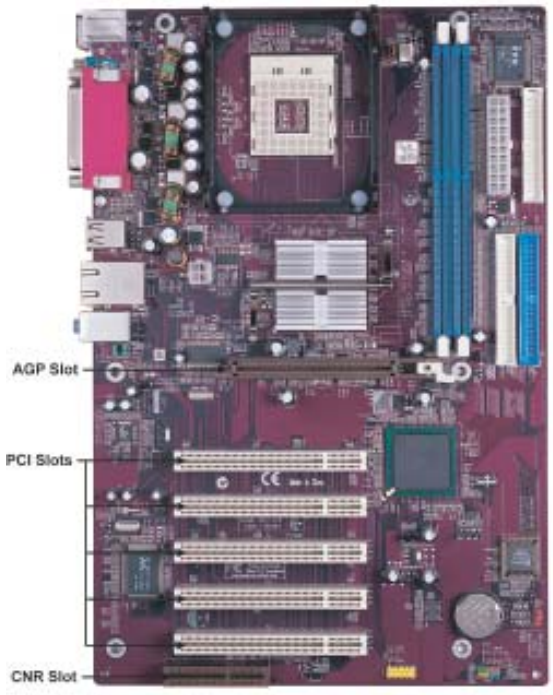
You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

FDD1: Floppy Disk Connector

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



AGP Slot The AGP slot is used to install a graphics adapter that supports the 4x/2X AGP specification.

PCI Slot This motherboard is equipped with five standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.2 compliant.

CNR1 Slot This slot is used to insert CNR cards with Modem and Audio functionality.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Follow these instructions to install an add-on card:

1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3 Secure the metal bracket of the card to the system case with a screw.

For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:

SPDIFO1: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog Power
3	Key	No pin
4	GND	Ground

AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

USB3: Front Panel USB header

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent Signal

Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

AUXIN1: Auxiliary In header

This connector is an additional line-in audio connector. It allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

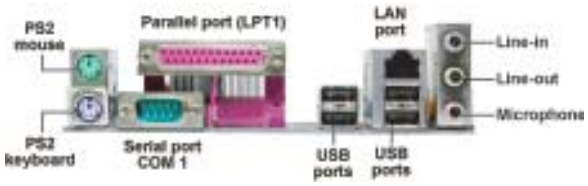
Pin	Signal Name	Function
1	AUX_L	AXU In left channel
2	GND	Ground
3	GND	Ground
4	AUX_R	AXU In right channel

CDIN1: Analog Audio Input header

Pin	Signal Name	Function
1	CD in_L	CD In left channel
2	GND	Ground
3	GND	Ground
4	CD in_R	CD In right channel

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



PS2 Mouse Use the upper PS/2 port to connect a PS/2 pointing device.

PS2 Keyboard Use the lower PS/2 port to connect a PS/2 keyboard.

Parallel Port (LPT1) Use LPT1 to connect printers or other parallel communications devices.

Serial Port (COM1) Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.

LAN Port (optional) Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

USB Ports Use the USB ports to connect USB devices.

Audio Ports Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

This concludes Chapter 2. The next chapter covers the BIOS.

Memo

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

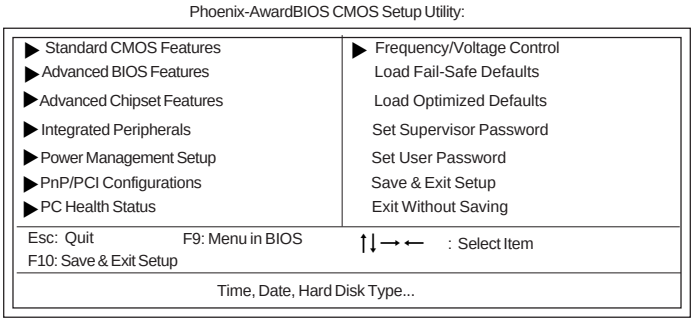
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting
F7	Loads an optimum set of values for peak performance

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6. At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

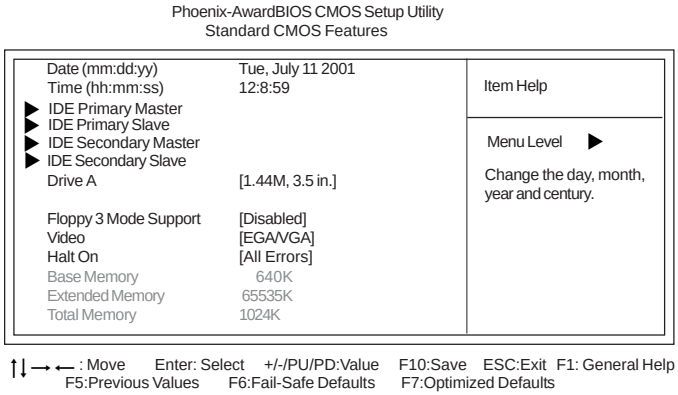
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

Standard CMOS Features

This option displays basic information about your system.


Phoenix-AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Tue, July 11 2001
Time (hh:mm:ss) 12:8:59
IDE Primary Master
IDE Primary Slave
IDE Secondary Master
IDE Secondary Slave
Drive A [1.44M, 3.5 in.]
Floppy 3 Mode Support [Disabled]
Video [EGA/VGA]
Halt On [All Errors]
Base Memory 640K
Extended Memory 65535K
Total Memory 1024K
Item Help
Menu Level ▶
Change the day, month, year and century.
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

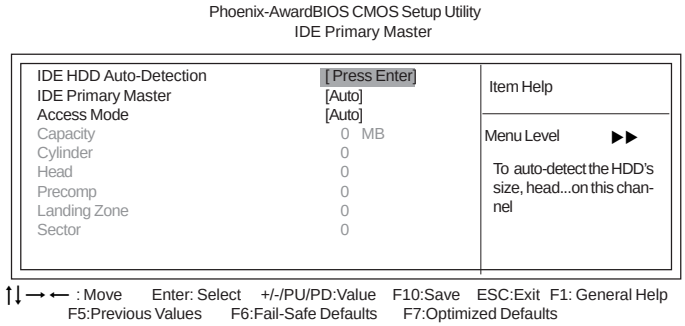
Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

►IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:



IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.

IDE Primary/Secondary Master/Slave (Auto)

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.

Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to return to the Standard CMOS Features page.

Drive A (1.44M, 3.5 in.)

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Video (EGA/VGA)

This item defines the video mode of the system. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On (All Errors)

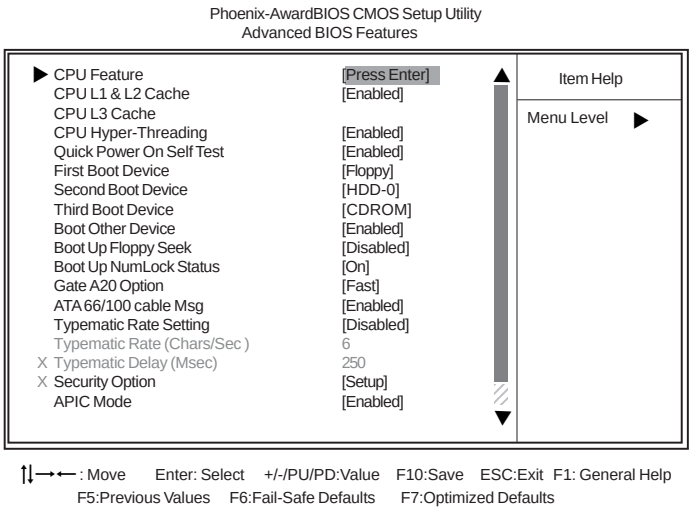
This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

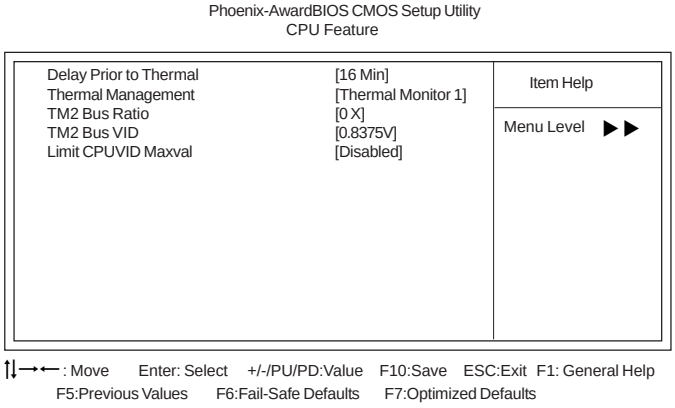
Advanced BIOS Features

This option defines advanced information about your system.


Phoenix-AwardBIOS CMOS Setup Utility
Advanced BIOS Features
▶ CPU Feature [Press Enter]
CPU L1 & L2 Cache [Enabled]
CPU L3 Cache
CPU Hyper-Threading [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [Floppy]
Second Boot Device [HDD-0]
Third Boot Device [CDROM]
Boot Other Device [Enabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
ATA 66/100 cable Msg [Enabled]
Typematic Rate Setting [Disabled]
Typematic Rate (Chars/Sec) 6
X Typematic Delay (Msec) 250
X Security Option [Setup]
APIC Mode [Enabled]
Item Help
Menu Level ▶
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

▶CPU Feature (Press Enter)

Scroll to this item and press <Enter> to view the following screen, and the following items are available only when the motherboard supports Prescott CPU.


Phoenix-AwardBIOS CMOS Setup Utility
CPU Feature
Delay Prior to Thermal [16 Min]
Thermal Management [Thermal Monitor 1]
TM2 Bus Ratio [0 X]
TM2 Bus VID [0.8375V]
Limit CPUVID Maxval [Disabled]
Item Help
Menu Level ▶▶
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

DelayPrior to Thermal (16 Min)

Enables you to set the delay time before the CPU enters auto thermal mode.

Thermal Management (Thermal Monitor 1)

This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.

TM2 Bus Ratio (0 X)

Represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.

TM2 Bus VID (0.8375V)

Represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.

Press <Esc> to return to the Advanced BIOS Features page.

CPU L1 & L2 Cache (Enabled)

All processors that can be installed in this motherboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

CPU L3 Cache (Enabled)

This item is only available when Prescott CPU is installed. Enable this item to better system performance.

CPU Hyper-Threading Technology (Enabled)

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (Floppy/HDD-0/CDROM)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek (Disabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option (Fast)

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

ATA 66/100 IDE Cable Msg. (Enabled)

This item enables or disables the display of the ATA66/100 Cable MSG.

Typematic Rate Setting (Disabled)

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec)**: Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

APIC Mode (Enabled)

This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

MPS Version Control For OS (1.4)

The BIOS supports versions 1.1 and 1.4 of the Intel multiprocessor specification. Select the version supported by the operation system running on the computer.

OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

HDD S.M.A.R.T Capability (Disabled)

The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

Report No FDD For WIN 95 (Yes)

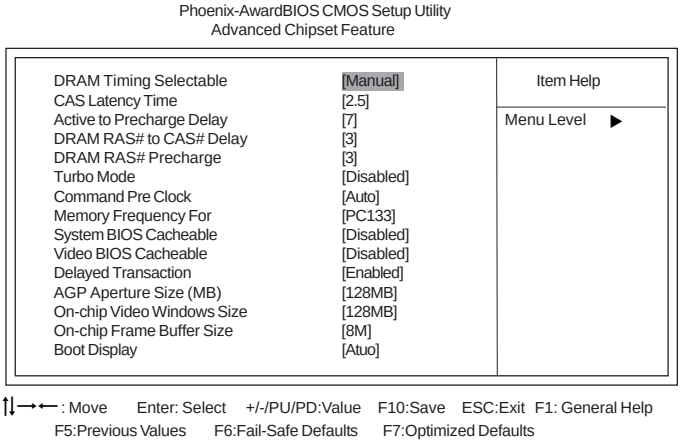
Set this item to the default if your are running a system with no floppy drive and using Windows 95; this ensures compatibility with the Windown 95 logo certification.

Small Logo (EPA) Show (Disabled)

Enables or disables the display of the EPA logo during boot.

Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.


Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Feature
DRAM Timing Selectable [Manual]
CAS Latency Time [2.5]
Active to Precharge Delay [7]
DRAM RAS# to CAS# Delay [3]
DRAM RAS# Precharge [3]
Turbo Mode [Disabled]
Command Pre Clock [Auto]
Memory Frequency For [PC133]
System BIOS Cacheable [Disabled]
Video BIOS Cacheable [Disabled]
Delayed Transaction [Enabled]
AGP Aperture Size (MB) [128MB]
On-chip Video Windows Size [128MB]
On-chip Frame Buffer Size [8M]
Boot Display [Atuo]
Item Help
Menu Level ▶
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

DRAM Timing Selectable (Manual)

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

CAS Latency Time (2.5)

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

Active to Precharge Delay (7)

The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.

DRAM RAS# to CAS# Delay (3)

This field allows you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Disabled gives faster performance; and Enabled gives more stable performance.

DRAM RAS# Precharge (3)

Select the number of CPU clocks allocated for the Row Address Strobe (RAS#) signal to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

Turbo Mode (Disabled)

This item allows you to speed up the external clock by approximately 2.5%. This feature is used to verify the design flexibility. It is a very important tool for test units to verify CPU stability.

Command Pre Clock (Auto)

Leave this item at Auto to enhance the system performance.

System BIOS Cacheable (Disabled)

This item allows the system to be cached in memory for faster execution. Enable this item for better performance.

Video BIOS Cacheable (Disabled)

These items allow the video BIOS and RAM to be cached in memory for faster execution. Enable these items for better performance.

Delayed Transaction (Enabled)

The chipset has an embedded 32-bit posted write buffer to support delayed transaction cycles. Enable this item to support comliance with PCI specification version 2.1.

AGP Aperture Size (128MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

On-chip Video Windows Size (128MB)

This item allows users to define the size of the video aperture.

On-chip Frame Buffer Size (8MB)

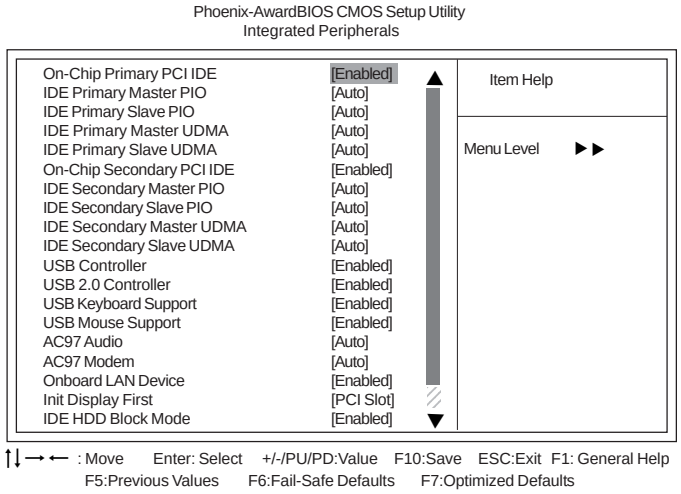
This item allows users to define the size of VGA frame buffer.

Boot Display (Auto)

This item allows users set the Intel defined ADD cards only.

Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.


Phoenix-AwardBIOS CMOS Setup Utility
Integrated Peripherals
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Auto]
IDE Secondary Slave UDMA [Auto]
USB Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Keyboard Support [Enabled]
USB Mouse Support [Enabled]
AC97 Audio [Auto]
AC97 Modem [Auto]
Onboard LAN Device [Enabled]
Init Display First [PCI Slot]
IDE HDD Block Mode [Enabled]
Item Help
Menu Level ▶▶
↑↓→← : Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

On-Chip Primary PCI IDE (Enabled)

Use these items to enable or disable the PCI IDE channels that are integrated on the motherboard.

IDE Primary/Secondary Master/Slave PIO (Auto)

Each IDE channel supports a master device and a slave device. These four items let you assign the kind of PIO (Programmed Input/Output) was used by the IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA technology, which provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

USB Controller (Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on this motherboard.

USB 2.0 Controller (Enabled)

Enable this item if want to use the USB 2.0 controller.

USB Keyboard Support (Enabled)

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

USB Mouse Support (Enabled)

Enable this item if you plan to use a USB mode.

AC97 Audio (Auto)

Enables and disables the onboard audio chip. Disable this item if you are going to install a PCI audio add-on card.

AC97 Modem (Auto)

Enables and disables the onboard modem. Disable this item if you are going to install an external modem.

Onboard LAN Device (Enabled)

Enables and disables the onboard LAN.

Onboard LAN BOOT ROM (Disabled)

This item allows you to enable or disable the onboard LAN Boot ROM function.

Init Display First (PCI slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard.

IDE HDD Block Mode (Enabled)

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

Onboard FDC Controller (Enabled)

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 (COM1).

Onboard Parallel Port (378/IRQ7)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

Parallel Port Mode (ECP)

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port), and ECP+EPP.

SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP- and ECP-aware peripherals.

ECP Mode Use DMA (3)

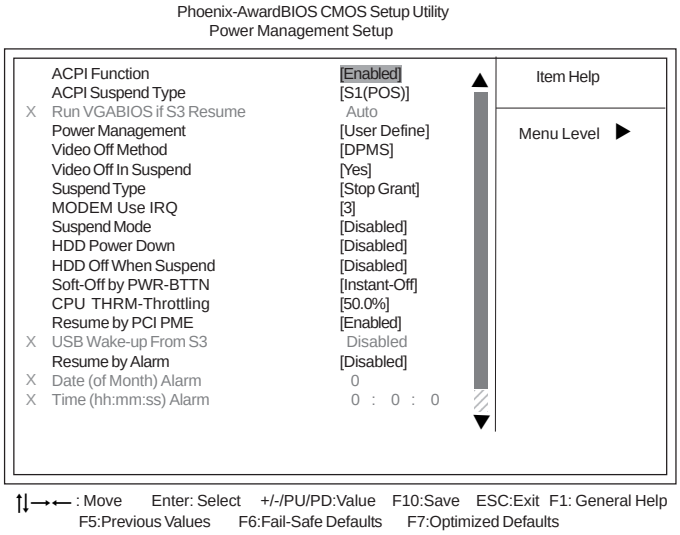
When the onboard parallel port is set to ECP mode, the parallel port can use DMA3 or DMA1.

Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero.

If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock


Phoenix-AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI Function [Enabled]
ACPI Suspend Type [S1(POS)]
X Run VGABIOS if S3 Resume Auto
Power Management [User Define]
Video Off Method [DPMS]
Video Off In Suspend [Yes]
Suspend Type [Stop Grant]
MODEM Use IRQ [3]
Suspend Mode [Disabled]
HDD Power Down [Disabled]
HDD Off When Suspend [Disabled]
Soft-Off by PWR-BTTN [Instant-Off]
CPU THRM-Throttling [50.0%]
Resume by PCI PME [Enabled]
X USB Wake-up From S3 Disabled
Resume by Alarm [Disabled]
X Date (of Month) Alarm 0
X Time (hh:mm:ss) Alarm 0 : 0 : 0
Item Help
Menu Level ▶
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

ACPI Function (Enabled)

This motherboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

ACPI is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the computer.

ACPI Suspend Type (S1(POS))

Use this item to define how your system suspends. In the default, S1 (POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

Power Management (User Define)

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

Video Off Method (DPMS)

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

Video Off In Suspend (Yes)

This option defines if the video is powered down when the system is put into suspend mode.

Suspend Type (Stop Grant)

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

MODEM Use IRQ (3)

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Suspend Mode (Disabled)

The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from 1 Min to 1 Hour and Disable.

HDD Power Down (Disabled)

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

HDD Off When Suspend (Disabled)

This option defines if the hard disk drive is powered down when the system is put into suspend mode.

Soft-Off by PWR-BTTN (Instant-Off)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

CPU THRM-Throttling (50.0%)

Use this item to specify the CPU speed (at percentage) to slow down the CPU when it reach the predetermined overheat temperature.

Resume by PCI PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume by Alarm (Disabled)

When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

- **Date (of Month) Alarm (0)**: Date (of Month) Alarm lets you select a day from 1 to 31.
- **Time (hh:mm:ss) Alarm (0:0:0)**: Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

**** Reload Global Timer Events ****

These fields determine which events waken the system from power saving mode.

Primary/Secondary IDE (Disabled)

When this item is enabled, the system power will resume the system from a power saving mode if there is any activity on primary or secondary IDE channels 0 or 1.

FDD, COM, LPT Port (Disabled)

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the floppy disk drive, serial ports, or the parallel port.

PCI PIRQ[A-D]# (Disabled)

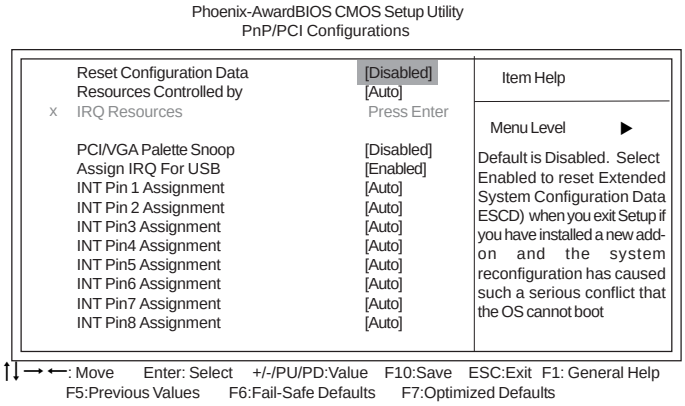
When this item is enabled, any activity from one of the listed devices wakes up the system.

PWRON After PWR-Fail (Off)

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

PNP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the Motherboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:


Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled by [Auto]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For USB [Enabled]
INT Pin 1 Assignment [Auto]
INT Pin 2 Assignment [Auto]
INT Pin3 Assignment [Auto]
INT Pin4 Assignment [Auto]
INT Pin5 Assignment [Auto]
INT Pin6 Assignment [Auto]
INT Pin7 Assignment [Auto]
INT Pin8 Assignment [Auto]
Item Help
Menu Level ▶
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory. New updated data is created.

Resources Controlled By (Auto)

You should leave this item at the default Auto. Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required. If you select the "Manual" option, the prompt on the following line, "IRQ Resources" will become available to you.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

- **IRQ Resources (Press Enter):** In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

  In the Memory Resources submenu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the section item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources submenu.

PCI/VGA Palette Snoop (Disabled)

This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Assign IRQ For USB (Enabled)

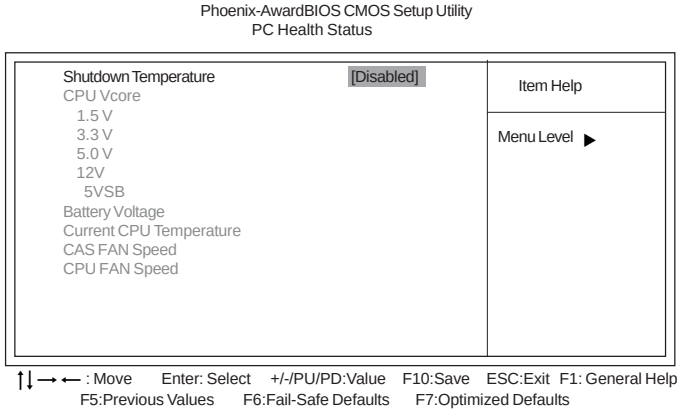
Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

INT Pin 1-8 Assignment (Auto)

Identifies the interrupt request (IRQ) line assigned to a device connected to the PCI interface of your system.

PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.



Shutdown Temperature (Disabled)

Enables you to set the maximum temperature the system can reach before powering down.

Warning Temperature (Disabled)

Use this item to set the warning temperature level for the processor.

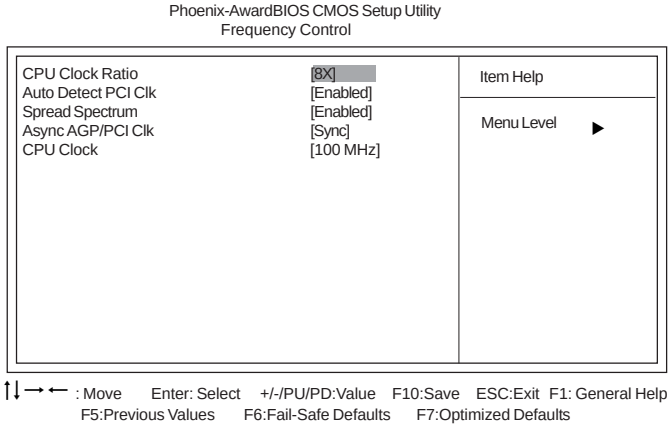
System Component Characteristics

These items allow end users and technicians to monitor data provided by the BIOS on this motherboard. You cannot make changes to these fields.

- Current FAN Speed
- CAS FAN Speed
- CPU FAN Speed
- CPU Vcore
- Battery Voltage

Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.


Phoenix-AwardBIOS CMOS Setup Utility
Frequency Control
CPU Clock Ratio [8X]
Auto Detect PCI Clk [Enabled]
Spread Spectrum [Enabled]
Async AGP/PCI Clk [Sync]
CPU Clock [100 MHz]
Item Help
Menu Level ▶
↑↓→← : Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

CPU VID (0.8375V)

This item allows users to adjust CPU Voltage; and the function supports only in Prescott CPU.

CPU Clock Ratio (8X)

Enables you to set the CPU clock. The CPU clock ratio times the CPU Host/PCI Clock should equal the core speed of the installed processor.

Auto Detect PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Spread Spectrum (Enabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

Async AGP/PCI CLK (Sync)

This item allows you to select the fixed clock to generate the output to AGP/PCI frequency.

CPU Clock (100 MHz)

Use the CPU Host Clock to set the frontside bus frequency for the installed processor (usually 133 MHz, 100 MHz or 200MHz).

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected “System” in “Security Option” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “Setup” at “Security Option” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup Option

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Chapter 4
Using the Motherboard Software

About the Software CD-ROM

The support software CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software.

Never try to install all software from folfer that is not specified for use with your motherboard.

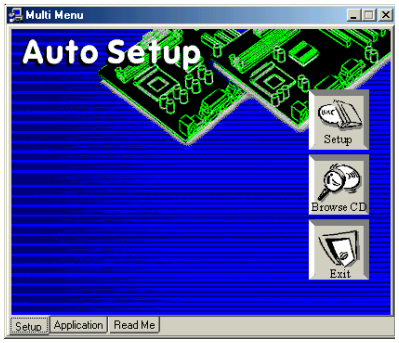
Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

Auto-installing under Windows 98/ME/2000/XP

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.

If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.



If the opening screen does not appear; double-click the file "setup.exe" in the root directory.

Setup Tab

Setup	Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.
Browse CD	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD. Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly. Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using. In install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **EXIT** button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

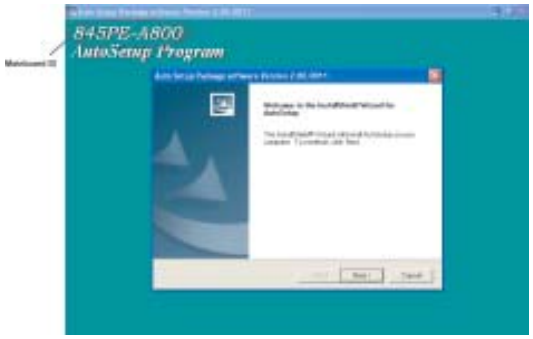
Read Me Tab

Displays the path for all software and drivers available on the CD.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

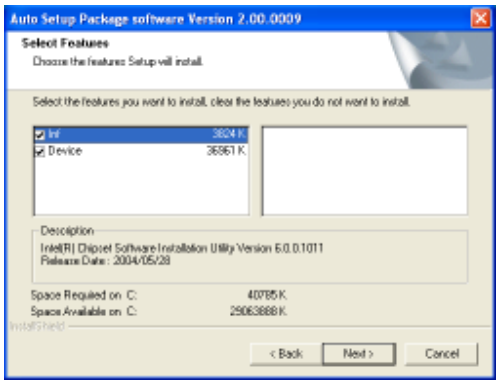
1. ***Click** Setup. **The installation program begins:***



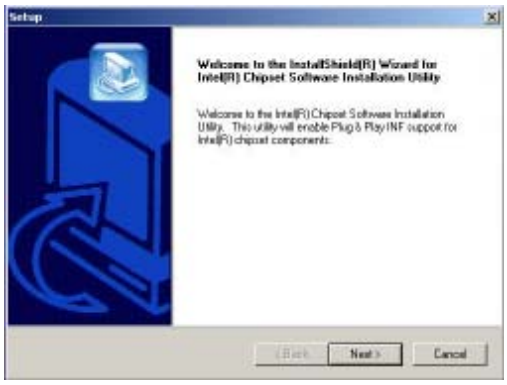
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

2. *Click **Next.** The following screen appears:*


Auto Setup Package software Version 2.00.0009
Select Features
Choose the features Setup will install.
Select the features you want to install, clear the features you do not want to install.
Inf
Device
Description
Space Required on C:
Space Available on C:
< Back
Next >
Cancel

3. *Check the box next to the items you want to install. The default options are recommended.*
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*


Setup
Welcome to the InstallShield(R) Wizard for Intel(R) Chipset Software Installation Utility
Welcome to the Intel(R) Chipset Software Installation Utility. This utility will enable Plug & Play INF support for Intel(R) chipset components.
Next >
Cancel

5. *Follow the instructions on the screen to install the items.*

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

These software(s) are subject to change at anytime without prior notice. Please refer to the support CD for available software.

AMI/AWARD Flash Memory Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the motherboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, Using BIOS *for more information.*

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the motherboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

This concludes Chapter 4.

Caractéristiques

Processeur

Cette carte mère utilise un Socket mPGA de 478 broches ayant les caractéristiques suivantes :

- Peut recevoir les CPU Intel P4 Willamette/ Northwood /Prescott 478 broches
- Prend en charge un bus système (FSB) de 533/400 MHz et jusqu'à 800 MHz par surfréquençage

Chipset

Intel's 845PE(MCH) Northbridge (NB) et 82801DB (ICH4) Southbridge (SB) se base sur une architecture innovante et évolutive avec des performances et une fiabilité éprouvées.

845PE (NB)

- Prend en charge les SDRAM DDR à 333/266 MHz et des opérations jusqu'à 400 MHz quand FSB 800 MHz est atteint par surfréquençage
- Prend en charge un processeur unique avec une vitesse de transfert de 533/400MHz
- AGTL+Bus d'Hôte avec terminaison intégrée prenant en charge l'adressage d'Hôte de 32 bits
- Prend en charge la Configuration 3D et moteur de Rendu et le rendu de zone avec moteur de texture de haute qualité.

82801DB (ICH4) (SB)

- Compatible avec la spécification PCI 2.2 à 33 MHz
- 6 ports USB 2.0 pour les transferts en série à 480 Mbit/s
- Prend en charge les spécifications AC'97 2.3
- Prend en charge jusqu'à deux canaux IDE Ultra DMA100/66/33

Mémoire

Cette carte mere peut recevoir deux SDRAM DDR DIMM 2,5V, prenant en charge les DDR333/ 266 MHz et jusqu'a 400 MHz par surfrequencage avec une taille memoire d'une capacite maximum de 2Go.

CODEC audio AC'97

Le CODEC Audio AC'97 est conforme aux spécifications AC'97 2.3 répondant aux exigences PC2001.Il possède aussi une mémoire tampon intégrée et PLL interne. Les fonctionnalités comprennent le support du commutateur analogique pour sortie arrière (partagée), la prise de ligne d'entrée (partagée), centre basse (partagée), et prise MIC à la sortie audio 6 canaux.

Options d'extension

La carte mère comporte les options d'extension suivantes :

- Cinq logements PCI 32 bits
- Un logement AGP
- Deux barrettes IDE avec prise en charge de quatre périphériques IDE
- Une interface lecteur de disquettes
- Un logement CNR (Communication Networking Riser) optionnel

La carte mère prend en charge la maîtrise de bus Ultra DMA avec des débits de 100/66/33 Mo/s.

Multi-Language Translation

LAN Interne (optionnel)

La puce LAN interne est incorporée dans le chipset offrant à la carte mère les capacités de contrôleur fast Ethernet 10/100Mbps et LAN PCI Ethernet intégrés.

- Prise en charge des opérations d'auto-négociation N-voies 10Mb/s et 100Mb/s
- Prend en charge la capacite half/full duplex
- Supporte la fonction Wake-On-LAN (WOL) -réveil par appel réseau et le réveil à distance

E/S intégrées

La carte mère comporte un ensemble complet de connecteurs et de ports E/S :

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Six ports USB (4 ports sur le panneau d'E/S reel, 1 embase prenant en charge 2 ports internes)
- Un port LAN (optionnel)
- Prise audio pour micro, entrée de ligne et sortie de ligne

Microprogramme BIOS

La carte mère utilise Award BIOS qui permet à l'utilisateur de configurer bon nombre de fonctions du système, dont :

- Gestion d'alimentation
- Paramètres de CPU
- Synchronisation de CPU et de mémoire

Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

Certaines spécifications matérielles et certains éléments logiciels sont susceptibles de modification sans préavis.

Multi-Language Translation

Funktionen

Prozessor

Dieses Motherboard ist mit einem mPGA 478-Pin Sockel ausgestattet, das folgende Eigenschaften aufweist:

- Nimmt Intel P4Willamette/Northwood/Prescott 478-pin CPU
- Unterstützt einen Systembus (FSB) von 533/400 MHz und bis zu 800 MHz durch übertakten

Chipsatz

Intel's 845PE(MCH) Northbridge (NB) und 82801DB(ICH4) Southbridge (SB) Chipsätze basieren sich auf einen innovativen und abgestuften Aufbau mit geprüfter Zuverlässigkeit und Leistung.

845PE(NB)

- Unterstützt DDR-SDRAM mit 333/266 MHz und bis zu 400 MHz wenn FSB 800 MHz durch übertakten erreicht werden
- Unterstützt einen Einzelprozessor mit einer Datenübertragungsgesc hwindigkeit von 533/400MHz
- AGTL+Host Bus mit integrierter Termination unterstützt 32-bit Host Adressierung
- Unterstützt 3D Setup, Render-Engine und Zonenrendering mit hochwertiger Texture-Engine.

82801DB (ICH4)(SB)

- Entspricht den Richtlinien der PCI 2.2- spezifikationen von 33 MHz
- 6 USB 2.0 Ports für serielle Transfers bei 480 Mbit/s
- Unterstützt AC'97 2.3 Spezifikation
- Unterstützt bis zu zwei Ultra DMA100/66/33 IDE Kanäle

Speicher

Die Hauptplatine nimmt zwei 2.5V DIMM DDR SDRAM auf, unterstützt DDR333/266 MHz und bis zu 400 MHz durch übertakten mit einer maximalen Arbeitsspeichergröße von 2GB.

AC' 97 Audio Codec

Die AC'97 Audio CODEC ist mit der AC'97 2.3 Spezifikation kompatible, die den PC2001 Anforderungen entsprechen.Außerdem verfügt er über einen integrierten Puffer und internes PLL. Er unterstützt außerdem einen analogen Umschalter für den hinteren Ausgang (gemeinsam genutzt), Line-in-Port (gemeinsam genutzt), Mitte/Bass (gemeinsam genutzt) und MIC-Port für 6-Kanal-Audioausgabe.

Erweiterungs-optionen

Das motherboard bietet die folgenden Erweiterungsoptionen:

- Fünf 32-bit PCI-Steckplätze
- Eine AGP Steckplatz
- Zwei IDE-Stecker, die vier IDE-Kanäle unterstützen
- Eine Schnittstelle für ein Floppydiskettenlaufwerk
- Ein optionaler CNR (Communication Networking Riser) Steckplatz

Das Motherboard unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 100/66/33 MB/Sek

Multi-Language Translation

Onboard LAN (Optional)

Der im Chipsatz integrierte LAN Chip befähigt das Motherboard mit 10/100 Mbps fast Ethernet Kontroller und integriertem Ethernet PCI LAN.

- Unterstützt 10Mb/s und 100Mb/s N-Way Auto-Negotiation
- Unterstützt Halb-/Vollduplex
- Unterstützt die Wake-On-LAN(WOL)-Funktion und Remote-Aufwecken.

Integrierte I/O

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Ports für Maus und Tastatur
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Sechs USB Ports (4 Ports an der tatsächlichen I/O Platine, 1 Anschluss unterstützt 2 Ports Onboard)
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon, Line-in und Line-out

BIOS Firmware

Dieses Motherboard setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:

- Energieverwaltung
- CPU-Parameter
- CPU- und Speichertiming

Mit der Firmware können auch die Parameter für verschiedene prozessortaktgeschwindigkeiten eingestellt werden.

Bestimmte Hardwarespezifikationen und Teile der Softwareausstattung können ohne weitere Ankündigung abgeändert werden.

Multi-Language Translation

Caratteristiche

Processore

La scheda madre utilizza una presa a 478 pin mPGA che offre le seguenti caratteristiche:

- Possibilità di alloggiare la CPU Intel P4 Willamette/Northwood/ Prescott a 478 pin
- Supporto di un bus di sistema (FSB) da 533/400 MHz e fino a 800 MHz tramite overclocking

Chipset

Intel's 845PE(MCH) Northbridge (NB) e 82801DB(ICH4) Southbridge (SB) sono basati su una architettura innovativa e scalabile dalle prestazioni e affidabilità garantite.

845PE(NB)

- Supporto di SDRAM DDR a 333/266 MHz e fino a 400 MHz quando l'FSB raggiunge 800 MHz tramite overclocking
- Supporto di un unico processore con velocità di trasferimento dati di 533/400 MHz
- AGTL+Host Bus con terminazione integrata compatibile con indirizzamento host a 32 bit
- Supporto di setup 3D e motore di rendering, nonché di rendering delle aree tramite motore di trama ad alta qualità.

82801DB (ICH4) (SB)

- Conforme alle specifiche PCI 2.2 a 33 MHz
- 6 porte USB 2.0 per trasferimenti seriali a 480 Mbit/s
- Conforme alla specifica AC'97 2.3
- Supporta fino a due canali IDE Ultra DMA 100/66/33

Memoria

La scheda madre è compatibile con due SDRAM DDR DIMM a 2,5 V e supporta fino a 2 GB di memoria con DDR a 333/266 MHz e fino a 400 MHz tramite overclocking.

AC' 97 Audio Codec

Il CODEC Audio AC'97 è conforme alla specifica AC'97 2.3, secondo i requisiti PC2001. Buffer incorporato e PLL interno. Comprende supporto per switch digitale per rear.out (condivisione), presa line-in (condivisione), center/bass (condivisione) e presa MIC per 6 canali di uscita audio.

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione

- Tre slot PCI v2.2 a 32 bit
- Uno slot AGP
- Due connettori IDE che supportano quattro canali IDE
- Una interfaccia floppy disk
- Uno slot opzionale CNR (Communication Networking Riser)

La scheda madre supporta il bus mastering Ultra DMA con transfer rate 100/66/33 MB/sec.

Multi-Language Translation

LAN Onboard (opzionale)

Il chip per LAN è incorporato nella serie di chip della scheda madre e mette a disposizione un controller Ethernet con velocità di 10/100 Mbps e funzionalità PCI LAN Ethernet integrate.

- Supporto operazioni di auto negoziazione N-Way a 10Mb/s e 100Mb/s
- Supporto di funzionalità half/full duplex
- Supporto funzione WOL (Wake-On-LAN) e riattivazione remota

I/O integrato

La scheda madre è dotata di un set completo di connettori e porte I/O:

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta parallela
- Sei porte USB (4 porte sul pannello I/O posteriore, 1 testata che supporta 2 porte sulla scheda)
- Una porta LAN (opzionale)
- Jack audio per microfono, linea d'ingresso e linea d'uscita

Firmware BIOS

Questa scheda madre adotto un BIOS Award che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:

- Gestione energia
- Parametri CPU
- Temporizzazione CPU e memoria

Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.

Alcune specifiche hardware e software potrebbero essere soggette a cambiamenti senza preavviso.

Multi-Language Translation

Características

Procesador

Esta placa principal usa un receptáculo mPGA 478-pin que tiene las sigtes. características:

- Acomoda el CPU Intel P4 Willamette/Northwood/Prescott 478 pin
- Soporta un bus de sistema (FSB) de 533/400 MHz y hasta 800 MHz por sobrecronómetraje (overclocking)

Chipset

Inte;'s 845 PE(MCH)Northbridge (NB) y Southbridge (SB) 82801DB(ICH4) están basados en una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

845PE(NB)

- Soporta DDR-SDRAM en 333/266 MHz y hasta la operación de 400 MHz cuando FSB 800 MHz se alcanza por el sobrecronometraje (overclocking)
- Soporta una sola procesadora con un Índice de Transferencia de Datos de 533/400MHz
- AGTL+Bus Anfitrión con la Terminación Integrada que soporta la Dirección Anfitriona de 32-bit
- Soporta 3D Setup y Motor de Rendición (Render Engine) y rendición de zona con la motor de textura de alta calidad.

82801DB (ICH4)((SB)

- Conforme con la especificación PCI 2.2 en 33 MHz
- 6 puertos USB 2.0 para las transferencias seriales a 480 Mbit/s
- Soporta la especificación AC'97 2.3
- Soporta hasta dos canales de Ultra DMA100/66/33 IDE

Memoria

Esta placa principal puede acomodar dos 2.5V DIMM DDR SDRAM, que soporta DDR333/266MHz y hasta 400 MHz por sobrecronometraje (overclocking) con una capacidad de un tamaño de memoria máximo de 2GB.

Codec de Sonido AC´97

El AC'97 Audio CODEC se conforma con la especificación AC'97 2.3 que satisface los requisitos de PC2001.También tiene un buffer incorporado y PLL interno. Las características incluyen soporte para interruptor analógico para la salida trasera (compartir), la clavija de entrada de línea (compartir), centro/bajo (compartir), y clavija MIC para exportar sonido de 6 canales.

Opciones de Expansión

La placa principla viene con las sigtes. opciones de expansión:

- Cinco ranuras PCI de 32 bits
- Una ranura AGP
- Dos conectores IDE que soportan cuatro canales IDE
- Una interfaz de lector de floppy
- Una ranura CNR (Communication Networking Riser) optativa

La placa principla soporta mastering de bus Ultra DMA con índices de transferencia de 100 / 66 /33 MB/s.

Multi-Language Translation

LAN abordo(optativo)

El chip LAN abordo está incorporado en el chipset que provee la placa principal el controlador Fast Ethernet de 10/100 Mbps y las capacidades de Ethernet PCI LAN integradas.

- Admite el funcionamiento de negociación automática de n vías de 10Mb/s y 100Mb/s
- Soporta capacidad duplex medio/completo
- Admite función Wake-On-LAN (WOL) y arranque remoto

I/O Integrado

La placa principal tiene un juego completo de puertos y conectores I/O:

- Dos puertos PS/2 para ratón y teclado
- Un puertos seriales
- Un puerto paralelo
- Seis puertos USB (4 puertos y el panel I/O real, 1 cabezal que soporta 2 puertos abordo)
- Un puerto LAN (optativo)
- Clavijas de sonido para micrófono, entrada y salida de línea

BIOS Firmware

La placa principal usa Award BIOS que habilita a los usuarios para que configuren muchas características del sistema incluyendo las siguientes:

- Administración de alimentación
- Parámetros de CPU
- Cronometraje de CPU y de memoria

También se puede usar el firmware para configurar los parámetros para diferentes velocidades de reloj del procesador.

Algunas especificaciones de hardware e ítems de software son sujetos a cambio sin aviso previo.

Multi-Language Translation

Características

Procesador

Esta motherboard usa a tomada de parede de cavilha mPGA 478 que possui as seguintes características:

- Acomoda CPU Intel P4 Willemette/Northwood/Prescott 478-pin
- Suporta um bus de sistema (FSB) de 533/400 MHz e até 800 MHz através de sobresincronização

Chipset

Intel's 845PE (MCH) Northbridge (NB) e 82801DB(ICH4) Southbridge (SB) são baseados em uma arquitetura inovativa e escalável com performance e confiabilidade comprovada.

845PE(NB)	• Suporta DDR-SDRAM a 333/266 MHz e até 400 MHz de funcionamento quando o FSB 800 MHz é atingido pela sobresincronização
	• Suporta um único processador com uma Taxa de Transferência de Dados de 533/400MHz
	• Bus AGTL+Host Com Conexão Integrada suportando um Endereçamento no Host de 32-bit
	• Suporta Disposição 3D, Motor de Distribuição e distribuição de zona com motor de textura de alta qualidade
82801DB (ICH4) (SB)	• Compatível com especificação PCI 2.2 a 33 MHz
	• portas 6 USB 2.0 para transferências de série a 480 Mbit/s
	• Suporta a especificação AC'97 2.3
	• Suporta até dois canais Ultra DMA100/66/33 IDE

Memoria

Esta motherboard consegue acomodar dois 2.5V DIMM DDR SDRAM, suportando DDR333/266 MHz e até 400 MHz atarvés de sobresincronização com o máximo de capacidade de memória de 2GB.

AC'97 Audio CODEC

O CODEC de Áudio AC'97 cumpre com a especificação AC'97 2.3 que vai de encontro aos requisitos PC2001.Ele também possui um polidor embutido e PLL interno. As características incluem suporte para alternador análogo traseiro (repartível), a tomada de entrada de linha (repartível), centro/bass (repartível), e tomada MIC para saída de 6 canais de áudio.

Opções de Expansão

A placa principal vem equipada com as seguintes opções de expansão:

- Cinco ranhuras PCI de 32 bits
- Uma ranhura AGP
- Dois conectores IDE suportando quatro dispositivos IDE
- Uma interface da unidade de disquete
- Uma abertura para CNR opcional (Suspensor de Redes de Comunicação)

A placa principal suporta o mastering do bus Ultra DMA, com velocidades de transferência de 100/66/33 MB/s.

Multi-Language Translation

LAN incorporada (Opcional)

O chip LAN onboard incorporado no conjunto de chips fornecendo a motherboard com um controlador de Ethernet rápido de 10/100 Mbps e com capacidades PCI LAN da Ethernet integrada.

- Suporta operação de autonegociação N-way de 10 e 100 Mb/s
- Suporta capacidade de duplex pela metade/ou na totalidade
- Suporta a função Wake-On-LAN (WOL) e reativação remota

E/S integrado

A placa principal conta com um conjunto completo de portas e conectores E/S:

- Duas portas PS/2 para o rato e o teclado
- Uma porta de série
- Uma porta paralela
- Seis portas USB (4 portas no painel real I/O, 1 colector suportando 2 portas onboard)
- Uma porta LAN (opcional)
- Tomadas de áudio para microfone, linha de entrada e linha de saída

BIOS Firmware

Esta placa principal utiliza a Award BIOS que permite aos utilizadores configurarem muitas funções do sistema, incluindo as seguintes:

- Gestão de energia
- Parâmetros da UCP
- Temporização da UCP e da memória

O firmware também pode ser utilizado para definir parâmetros para diferentes velocidades do relógio do processador

Algumas especificações de hardware e itens de software estão sujeitos a alteração sem aviso prévio.

Multi-Language Translation

仕様

プロセッサ

このマザーボードには、次の機能を持ったmPGA 478ピンソケットが一つあります:

- Intel P4 Willamette/Northwood/Prescott 478ピンCPUに対応
- 533/400 MHzのシステムバス(FSB)を、オーバークロックの場合は最大800 MHzまでサポート

チップセット

Intelの845PE(MCH) Northbridge(NB)および82801DB(ICH4) Southbridge(SB)チップセットは最新且つ拡張性あるアーキテクチャを採用し、高い安定性およびパフォーマンスを兼ね備えたものです。

845PE(NB)

- 333/266 MHzのDDR-SDRAMを、FSBが800MHzにオーバークロックされている場合は最大400 MHzまでの動作をサポート
- データー転送率が533/400MHzのシングルプロセッサをサポート
- ターミネイション内蔵のAGTL+Host バスで32ビットホストアドレス指定機能可能
- 3D Setup＆RenderエンジンとZone Rendering機能を対応で高品質のテクスチャエンジンを提供

82801DB (ICH4) (SB)

- 33MHZでのPCI2.2規格に準拠することで
- 転送率480 Mbit/s のUSB 2.0ポートを6つ搭載
- AC'97 2.3規格に対応
- Ultra DMA100/66/33 IDE チャネルを最大2つまで対応可能

メモリー

本マザーボードは2つの2.5V 仕様のDIMM DDR SDRAMを取り付け可能で、DDR333/266 MHz を、オーバークロックした場合は最大400 MHzまでをサポートすると共に、最大2GBまでのメモリ装着が可能です。

AC' 97 オーディオコーデック

AC' 97 オーディオコーデックはPC2001基準に基づいたAC' 97 2.3 仕様に適合したもので、内蔵式バッファーと内部PLLを有しています。また、リアル出力ポート(共有)、ラインインジャック(共有)、中低音ポート(共有)、MICジャックでのアナログ切り替え機能をサポートすることによって、6チャネルのオーディオ出力を提供します。

拡張オプション

このマザーボードには次の拡張オプションがあります:

- 32ビットのPCI V2.2 仕様スロットが5つ
- AGP スロットが1つ
- IDEコネクタが2つ、それで4つのIDEチャネルをサポート
- フロッピーディスクインターフェースが1つ
- オプションのCNR (Communication Networking Riser)スロットが1つ

このマザーボードは、100 / 66/ 33 MB/秒の転送レートでのUltra DMAバスマスタリングに対応します。

Multi-Language Translation

オンボードLAN (オプション)

このオンボードLAN チップがチップセットに組み込むことで、10/100 Mbps 高速イーサーネットコントローラを取り込み、イーサーネット PCI LAN機能を導入しています。

- 10Mb/秒および100Mb/秒N-way自動ネゴシエーション操作をサポート
- 半/全二重の機能をサポート
- ウェークオンLAN(WOL)機能とリモートウェークアップをサポート

統合の入出力ポート

このマザーボードは、次のI/Oポートおよびコネクタを揃えています。

- マウスとキーボード用のPS/2ポートが2つ
- シリアルポートが1つ
- パラレルポート が1つ
- USBポートが6つ(4つが背面入出力パネルに、残りの2つがオンボードの1つのヘッドでサポート)
- LANポート が1つ (オプション)
- マイクロフォンやラインイン、ラインアウト用のオーディオジャック

BIOSファームウェア

本マザーボードは次ぎのシステム機能を含めた設定をすることができるAward BIOSを採用しています:

- 電源管理
- CPU パラメータ
- CPU およびメモリのタイミング

その他に、各種プロセッサクロック速度に対応するのパラメータを設定することができます。

一部のハードウェア仕様及びソフトウェアアイテムは予告なく変更されることがあります。

日本語

Multi-Language Translation

기능

프로세서

본 마더보드는 다음과 같은 특성을 지닌 mPGA 478 핀 소켓을 사용한다:

- Intel P4 Willamette/Northwood/Prescott 478-핀 CPU 사용
- 533/400 MHz 의 시스템 버스 (FSB) 및 오버클록킹으로 최대 800 MHz 지원

칩셋

Intel's 845PE(MCH) Northbridge (NB) 와 82801DB (ICH4) Southbridge (SB) 칩셋은혁 신적이고 범위성을 지닌 아키텍쳐를 바탕으로 인정된 신뢰성과 성능을 지닌다.

845PE(NB)

- 333/266 MHz의 DDR-SDRAM 및 오버클록킹으로 FSB 800 MHz에 이르면 최대 400 MHz 오퍼레이션 지원.
- 데이터 전송 속도 533/400MHz 의 싱글 프로세서 지원
- 32 비트 호스트 어드레싱을 지원하는 통합 터미네이션을 지닌 AGTL+호스트 버스
- 고품질의 텍스쳐 엔진과 함께 3D Setup, Render Engine , zone rendering 지원

82801DB (ICH4) (SB)

- 33 MHz에서 PCI 2.2 사양 호환
- 480 Mbit/s 로 시리얼 전송을 위한 USB 2.0 포트 6 개
- AC'97 2.3 사양 지원
- 최대 2 개의 Ultra DMA100/66/33 IDE 채널 지원

메모리

본 마더보드는 2 개의 2.5V DIMM DDR SDRAM을 사용할 수 있으며, DDR333/266 MHz 및오버클록킹으로 최대 400 MHz를 지원하며, 최대 메모리 용량 2GB 를 지원한다.

AC'97 오디오 코덱

AC'97 오디오 코덱은 PC2001 요구사항에 맞는 AC'97 2.3 사양에 부합된다.버퍼 및 PLL이 내장되어 있으며, 후면-출력 (공유), 라인 입력 잭 (공유), 중앙/베이스 (공유), 및 6 채널 오디오 출력 용 MIC 잭을 위한 아날로그 스위치를 포함한다.

확장 옵션

이 메인보드는 다음과 같은 확장 옵션이 있다

- 32 비트 PCI v2.2 호환 슬롯 5 개
- AGP 슬롯 1 개
- 4 개의 IDE 채널을 지원하는 IDE 로우 프로파일 헤더 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- CNR (Communication Networking Riser) 슬롯 1 개 (선택사항)

메인보드는 전송 속도100 / 66 / 33 MB/s의 Ultra DMA bus mastering 을 지원한다

Multi-Language Translation

보드 내장 LAN (선택 사항)

보드 내장 LAN 칩은 마더보드에 10/100 Mbps 패스트 이더넷 컨트롤러와 통합 이더넷 PCI LAN 을 제공한다.

- 10 Mb/s 및 100 Mb/s N-Way 자동 교섭 작동 지원
- Half/full 듀플렉스 지원.
- WOL(Wake On LAN) 및 RWU(Remote Wake Up) 기능 지원

통합 I/O

이 메인보드에는 풀 세트의 I/O 포트와 커넥터가 있다

- 마우스와 키보드용 PS/2 포트 2 개
- 시리얼 포트 1개
- 패러럴 포트 1 개
- USB 포트 6 개 (real I/O 패널에 4 개의 포트, 해더 1 개가 보드 위에 2 개의 포트 지원)
- LAN 포트 1 개 (선택 사항)
- 마이크용 오디 오 잭, line-in 과 line-out

BIOS 펌웨어

본 메인보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다

- 전원 관리
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어는 다른 프로세서의 클럭 속도를 설정하는 데도 사용될 수 있다

하드웨어 사양 및 소프트웨어 아이템은 사전 통보없이 변경될 수 있습니다

Multi-Language Translation

規格

處理器

本主機板配備具有如下功能的mPGA 478針插槽:

- 支援Intel P4 Willamette/ Northwood/Prescott-478針處理器；
- 支援 533/400 MHz 系統匯流排(FSB)，且支援超頻至 800 MHz。

晶片組

Intel's 845PE(MCH)北橋(NB)及82801DB(ICH4)南橋(SB)晶片組具有創新的架構及擴充性，並且可提供足以信賴的可靠性及效能。

845PENB)

- 支援333/266 MHz 的DDR-SDRAM ，且系統匯流排超頻至800MHz時，可支援400 MHz 存取動作；
- 支援一顆資料傳輸率為533/400MHz之處理器；
- 具內建有終結器的AGTL+Host 匯流排，支援32位元主控定址功能；
- 支援 3D Setup and Render Engin (3D算圖功能)及Zone Rendering(區域繪圖成形功能)，提供高品質材質引擎。

82801DB (ICH4) (SB)

- 相容於33MHz的PCI v2.2規格；
- 提供6個 USB 2.0 埠，支援480 Mbit/秒傳輸；
- 支援 AC'97 2.3 規格；
- 支援高達2個Ultra DMA100/66/33 IDE通道。

記憶體

本主機板可安裝2個2.5V DIMM DDR SDRAM， 支援DDR333/266且支援超頻至400MHz，可安裝的總記憶體容量為2GB。

AC'97 音效解碼/編碼器

AC'97 Audio CODEC相容於符合PC2001規定之AC'97 2.3規格。且具有內建式緩衝器及內接 PLL (鎖相環)。此外，藉由後置輸出端子(共用)、 線性輸入端子(共用), 中低音端子(共用)及麥克風端子的類比切換功能，可輸出 6 聲道音響。

擴充選項

主機板機載有下列擴充選項功能:

- 5個32位元PCI插槽；
- 1個AGP 插槽；
- 2個IDE接頭(支援4個IDE通路)；
- 1個軟體機介面；
- 1個可選的CNR (Communication Networking Riser)插槽。

本主機板也支援Ultra DMA 匯流排主控功能，可提供100/66/33 MB/sec之傳輸速率。

Multi-Language Translation

機載LAN(選購)

藉由內含機載LAN 晶片，本主機板已內建10/100 Mbps 高速乙太網路晶片，具有乙太網路PCI LAN功能。

- 支援 10Mb/s 及 100Mb/s N-way 自動協調作業；
- 支援半/全雙工功能；
- 支援喚醒 (WOL) 功能及遙控喚醒功能。

整合的輸入出功能

本主機板完整地支援各種輸出入及連接器：

- 2個 PS/2 埠，分供滑鼠及鍵盤連接；
- 1個串列埠；
- 1個平行埠；
- 6個USB 埠(4個在背面I/O面板，並以主機板上之另一個插頭支援其他2個)；
- 1個LAN埠(選購)；
- 麥克風、線級輸入(line-in)及線級輸出(line-out)音效端子。

BIOS韌體

本主機板使用了Award BIOS ，使用者可藉此對包括下列之系統功能進行設定：

- 電源管理；
- CPU參數；
- CPU及記憶體的定時。

本BIOS也可用以設定各種有關處理器頻率的參數。

有些硬體規格以及軟體物件將視狀況適當調整，不予另行通知。

功能

处理器

主板使用一个 mPGA 478-pin 插座，此插座具有以下特点：

- 支持 Intel P4 Willamette/Northwood/Prescott 478-pin CPU
- 支持 533/400 MHz 系统总线 (FSB) 和 800 MHz 超频

芯片组

Intel's 845PE(MCH)北桥(NB) 和 82801DB(ICH4)南桥(SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

845PE(NB)

- 支持 333/266 MHz DDR-SDRAM 内存，当超频到 FSB 800 MHz 时可支持 400 MHz DDR-SDRAM 内存
- 支持数据传输速率为 533/400MHz 的单处理器
- AGTL+ 带有综合终端的主控总线，支持 32 位主机寻址
- 支持 3D 设置和着色引擎以及带高性能纹理引擎的区域着色。

82801DB (ICH4)(SB)

- 符合 33 MHz 下的 PCI 2.2 规格
- 6 个 USB 2.0 端口，传输速率可达 480 Mbit/s
- 支持 AC'97 2.3 规格
- 支持 2 个 Ultra DMA100/66/33 IDE 通道

内存

主板支持 2 个 2.5V DIMM DDR SDRAM，支持 DDR333/266 MHz，超频时可支持 400 MHz，内存最大支持 2GB。

AC'97 Audio 编解码器

AC'97 Audio 编解码器兼容 AC'97 2.3 规格，符合 PC2001。标准它还带有集成缓存和内部 PLL。它支持用于后置输出的模拟开关（共享）、线入插孔（共享）、中置/低音（共享）和输出 6 路音频的 MIC 插孔。

扩展选项

此主板提供如下扩展选项：

- 5 个 32 位 PCI v2.2 扩展槽
- 1 个 AGP 插槽
- 2 个 IDE 接口，可支持 4 个 IDE 设备
- 1 个软驱接口
- 1 个可选 CNR（通信网络转接）插槽

此主板支持 Ultra DMA 总线控制，传输速率可达 100 / 66 /33 MB/sec。

Multi-Language Translation

Onboard LAN（可选）

LAN 芯片包含在芯片组中，能够为主板提供 10/100 Mbps 高速以太网控制器和集成以太网 PCI LAN 功能。

- 支持 10Mb/s 和 100Mb/s N 路自协商工作
- 支持半双工/全双工工作
- 支持 LAN 唤醒 (WOL) 功能和远程唤醒功能

集成 I/O

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个并口
- 6 个 USB端口（后面板带 4 个端口，板上带 1 个接口可支持 2 个端口）
- 1 个 LAN 端口（可选）
- 麦克风、线入和线出声音插孔

BIOS

此主板使用 Award BIOS，可以让用户自己配置以下系统功能：

- 电源管理
- CPU 参数
- CPU 和记忆定时

还可用于设置不同处理器时钟速度的参数。

某些硬件规格和软件项目若有更改恕不另行通知。